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The President, Dr. GERHARD, in the Chair.

Case of Rheumatism, Endo-pericarditis, Pleurisy, and Double Pneumonia, with Autopsy. By Dr. STILLÉ.

I. L., æt. twenty-three, a seaman, had always enjoyed good health, and was naturally of a vigorous constitution. He had just returned, in good health, from a two years' cruise, when, on November 30th, he was exposed to a cold rain, after leaving a warm room, and on his way to one less comfortable. Within an hour after this exposure, he was attacked by a severe pain over the cartilages of the left false ribs, so acute and violent as to prevent him from drawing his breath freely, and from sitting in an upright position. The pain lasted from one to two hours,—and then, after the administration of some warm drinks, passed off. On the 1st and 2d of December he had no pain, nor dyspnœa, nor did he feel otherwise unwell; but his appetite was less than usual. On the 3d inst. the pain returned in the same place, without any known exciting cause, with less violence than before, but was aggravated by any movement of the body, and by forced inspiration. He had no headache, heat of skin, nor unusual thirst, and neither nausea nor diarrhœa. On the 4th December, he entered the Pennsylvania Hospital. I found him complaining of pain about the cartilages of the seventh and eighth false ribs, and in a space extending for two or three inches from them in every direction, increased by moderate pressure, and by full respiration; no cough, nor expectoration; the patient was sitting on his bed-side; said he preferred lying on his right side, but had no pain when on his left side. The respiration was every where soft and vesicular, without marked expiration. Percussion was every where resonant behind; it was not carefully made before. The sounds of the heart were distinct and natural.

Eight ounces of blood were taken by cups from the seat of pain, affording marked relief, which was still further increased by the application of a blister. Several doses of laxative medicine were given in the first three days, and the wine of colchicum prescribed in the dose of twenty drops three times a day. All the symptoms abated; and the patient continued to walk about the ward until the night of the 8th December, when he was seized with a pain, acute and violent, like the previous ones, but situated directly over the heart, and

extending thence to the whole left side of the trunk. The dyspnœa was extreme. A sinapised foot-bath was ordered, and a mustard poultice to the præcordium. The pain diminished,—but, several hours afterwards, the dyspnœa persisted, accompanied with an anxious and pale face, and a livid circle around the eyes; decubitus on the left side. I then took sixteen ounces of blood from the arm. The pain and dyspnœa were at once relieved, and continued less during the 9th; on the evening of that day I prescribed an anodyne mixture. L. passed a comfortable night. On the 10th, I examined the region of the heart, and found dulness on percussion, with a marked convexity of the chest, extending from the second rib down to the seventh, and from the right side of the sternum to the left nipple. There was no visible nor sensible impulse of the heart; and its sounds were very dull, and as if remote. Eight ounces of blood were taken by leeches from the præcordial region; before this quantity of blood had been withdrawn, the patient was able to lie upon his back, and breathe easily in that position.

In the evening he said he felt like "a new man." A poultice was then applied over the leech bites, and ten grains of calomel, and as many of rhubarb, prescribed.

11th.—Had slept half the night; two stools; continues to feel much better; decubitus dorsal; face rather sallow and thin; expression less anxious; pulse 90, regular, small; respiration 30; præcordial dulness rather less, extending only to middle line of sternum; its other limits as before; the sounds dull, but their other characters natural. (R. Blister over heart.) Evening.—Pulse 108; respiration 40. From the 11th to the 16th, L.'s condition did not change materially; his respiration was rather freer, and the pain very slight. He could not sleep at night. On the 14th he took ten grains of lupulin, without sleeping; on the 15th he took half a grain of sulph. morphia, and slept about seven hours.

16th.—Decubitus dorsal; face sallow, except the cheeks, which have a hectic flush; expression very anxious; no headache; intelligence and senses perfect; pulse 104, small and quick; respiration 44, laborious and painful; tongue dry, centre coated with a rough brown crust; he breathes through his mouth; no nausea nor vomiting; thirst considerable, avoids cold drinks; anorexia; two stools after purgative enema; abdomen soft, not tympanitic; skin warm, harsh, and dry. The left side moves but little in inspiration; there is evident prominence of all the præcordial region; with

every breath there is an acute pain half an inch within the left nipple; respiration vesicular, but shrill on right side of chest, before; on left side, there is feeble inspiration and blowing expiration under the clavicle. Percussion resonant on the right side; on the left it is obscure, or flat, from the nipple to the right edge of sternum, and from the lower edge of the sixth rib to the upper edge of the second. Respiration is faintly heard from the second to the fourth rib. There is no sensible impulse of heart; the sounds of this organ are dull and distant, their rythm is natural. Diet: gruel, barley and gum water. Six ounces of blood to be taken by leeches from over the heart. The relief afforded by this application was prompt and decided.

17th.—Pulse 128. Respiration 40. No sleep last night; head warm; expression anxious; features haggard; skin of face greasy; circumscribed flush on cheek; nostrils expand in breathing; great prostration. Same signs offered by thorax, except that under the middle third of the left clavicle there is metallic resonance on percussion, with amphoric respiration, and pectoriloquy. Below the innermost third of this clavicle there is perfect flatness on percussion, with bronchial voice and respiration. R. Calomel gr. j.; opium gr. 1-6th every two hours. Poultice over heart, and to legs.

Evening.—General symptoms as in the morning. Pain at the junction of sixth left rib with the sternum; expression very anxious; great dyspnœa; pulse 120, quick, of moderate force. Patient sat up while 12 oz. of blood were taken from his arm. Posterior part of chest examined: on left side, there was absolute flatness on percussion from the summit to the base of the lung, and from the spine to the middle of the flank. Respiration was very feeble in all this space; there was bronchial respiration and voice in the upper third, and indistinct œgophony at the root of the lung; in the lowest third respiration was almost extinct. Anterior to the vertical from the axilla, percussion was resonant. On the right side, respiration was puerile in the upper half, and rather feeble in the lowest third. Percussion on this side resonant. Patient prefers lying on his back, or on his left side, but can lie on his right side without great inconvenience. R. Blister to left side, behind.

18th.—Same general symptoms, except that the respiration is freer; slept none last night; the blister drew well; at the upper part of the left lung, where the sonoriety was so marked, there is now perfect flatness on percussion; the only portion of the left side of the chest at all resonant, is a space of about two square inches above and exterior to the nipple. The amphoric respiration above the third rib very strong, and the vibration of the voice metallic. Decubitus on right side impracticable. No cough. Pulse 112, of moderate force and volume. R. Ext. Hyosciam. gr. v., every hour

of evening till sleep is procured. Calomel and opium continued.

19th.—Slept for about four hours, at intervals; felt refreshed; had profuse sweat during the night; expression less anxious; face less flushed; tongue moister; præcordial prominence less; sounds of heart remote and dull; flatness on percussion extends from the left flank to about half an inch to the right of the sternum, and from the sixth rib to the clavicle; in all this space, except immediately over the heart, there is blowing respiration and vocal resonance, but no rhonchus, nor respiratory murmur. There is no fossa, either above or below the left clavicle. Pulse 116.

20th.—General symptoms rather improved. The prominence over the heart less marked; the sounds of the heart more audible; the left side of the chest moves rather more than it did; supra-clavicular space less prominent; at the junction of the second and third ribs with the sternum, there is a little resonance on percussion. Respiration as before.

22d.—Same general symptoms. Pulse 100. Respiration 36. Gums slightly ulcerated; a faint mercurial odour in breath; left side of chest regularly rounded; no intercostal depressions. Between the third and fourth ribs the sounds of the heart are distinctly heard, and the ear receives a perceptible impulse at that point. No anormal sound.

23d.—Pulse 112, quick, more feeble. Respiration 32, regular; the inspiration is quick and jerking. Expression still anxious; the skin of the face moist and greasy; cheeks flushed; mouth half open; nostrils dilated; teeth brownish; gums more ulcerated; mercurial fœtor marked; the skin of the trunk and extremities moist and warm. Left side of chest, anteriorly, flat on percussion as before; no respiration heard in it; only a faint sonorous rhonchus in the axilla. Over the right lung there are heard sibilant and sonorous rhonchi. Full inspiration causes no pain. Debility more marked. Anorexia; thirst very great. Omit calomel and opium; cataplasm to left side.

24th.—Pulse 104, feeble, small, not so quick. Respiration 36, difficult and painful. Slept only an hour last night; was very restless. Complains of pain near left nipple. Sounds of heart feebler, and its impulse less. No cough. Chicken soup, and arrowroot.

25th.—Between 5 and 6 o'clock, A. M., was called to see L. Found him in great difficulty of breathing; a loud rattle in the trachea. Face expressive of intense anxiety; hands cool; pulse scarcely perceptible at wrist; pupils dilated; skin covered with profuse and greasy sweat. Sinapisms were applied to the epigastrium and nuchæ; the thorax rubbed with hot whiskey; and warm drinks, with wine, administered by the mouth. He gradually reacted. At 10, A. M., the rattle had ceased, the pulse returned, the expression was more

natural. A teaspoonful of brandy was ordered to be given every twenty minutes, and ten drops of the spts. of turpentine, in emulsion, every two hours. At 6 P. M., there was no change for the worse, and the treatment was continued. During the night, symptoms of suffocation again appeared, and were relieved by the same means as before.

26th.—Pulse 112, of moderate force. Respiration 36, spasmodic, laborious, and accompanied by groans; slept a little last night; sweated profusely; face thinner, and of a leaden hue; expression very anxious; nostrils dilated, and lower lip drawn down in inspiration; intelligence and senses perfect; deglutition easy; no vomiting; cough rare, and slight; no expectoration; decubitus on the left side; percussion over right lung, before and behind, resonant in upper three-fourths, and obscure in the lowest fourth,—in this latter space there is a fine crepitant rhonchus. Placed in a sitting posture on the side of the bed, L. sustains himself well; percussion over whole of left side of chest, behind, is flat; under the left clavicle it is tympanitic. Respiration faintly heard in upper half of left side of chest behind; doubtful, if audible, in lower half.

27th.—Respiration 44, gasping, laborious, quick; expression very anxious; face haggard, and of a leaden hue; pupils natural; eyes dull; profuse perspiration. Pulse 136, very feeble and quick; some delirium; deglutition difficult; decubitus on left side. Over lower half of right side there is dulness on percussion, with crepitant rhonchus in inspiration, and mucous and sonorous rhonchus in expiration. The latter sounds are also heard in the upper half of this lung.

About 2 P. M., after taking some gruel, L. was seized with symptoms of suffocation, and died in about ten minutes.

Autopsy; twenty-four hours after death.

External appearance.—Emaciation and rigidity moderate; the skin pale throughout, somewhat sallow on the face. Percussion was flat over the whole anterior portion of the left side of the chest, and as far as the right edge of the sternum. The right side of the chest was resonant from the clavicle down to the fourth rib, below which there was dulness on percussion which amounted to positive flatness on the right flank. In this latter region the dulness was considerable, even as high up as the axilla. The form of the left side of the thorax was evidently more rounded, and its prominence was greater than on the opposite side, the intercostal spaces being more clearly defined on the latter side.

Dissection.—The muscles were firm, and of a bright red colour. The right lung accurately filled its cavity, and its pleura was connected with that of the ribs by cellular adhesions of considerable firmness, but not strong enough to resist the pressure of the fingers. The low-

est lobe of this lung was dense, it contained no air, and sank in water; its tissue was of a grayish red colour, offering on section, a granulated surface, and was easily reducible to a pulpy mass by moderate compression. The middle lobe offered nearly the same characters, but its consistence was rather greater, and its colour was not so pale. The upper lobe yielded on incision, a considerable quantity of a brownish, frothy liquid; it was of a redder colour, and firmer consistence, especially its anterior portion; a piece cut off from this latter part, floated upon water. The bronchiæ were red, and their lining membrane thickened and softened.

Left lung.—In the upper half of the pleural cavity there was a pint and a half of turbid liquid which, when removed, disclosed a corresponding cavity, lined by a false membrane, of a yellow colour, from one to two lines in thickness, very firm, and having on its free surface, flakes of lymph only partially attached. This membrane was easily removable in small portions, and beneath it the pleura was found smooth and shining, but injected. The hand introduced into the cavity, discovered it to be of a regular form above, corresponding to that of the upper part of the chest, but communicating, by several prolongations, with smaller cavities towards the base of the lung. The lung itself was firmly fixed by the false membrane in the lower and inner corner of the left side of the thorax, bound against the spine, and the tendon of the diaphragm, so that it could not be removed without laceration.

The tissue of the lower lobe had a fleshy aspect, and was, in general, of a reddish gray colour, but in some spots the red, and in others the gray tinge, predominated, which, with the granular state of its section, gave it an appearance somewhat like that of the cut surface of a kidney, divided parallel to its long axis. Its density was sufficient to cause it to sink in water, and its consistence, although greater than that of the lowest lobe of the right lung, was inadequate to resist firm pressure. The upper lobe of this lung was of a pretty uniform, grayish colour, more supple and more firm than the lower lobe, but contained no air whatever. The bronchiæ of this lung, like those of the right, and the trachea, had their lining membrane of a vivid red, and somewhat softened. There were no tubercles in either lung.

Heart.—The cavity of the pericardium contained about half a pint of yellowish, semi-transparent fluid; a reddish-white false membrane completely lined the cavity, and there were bands of it connecting the opposite surfaces in many points. This false membrane had a reticulated or cellular disposition, on the internal face of the pericardium, while on the heart it was smoother, and more compact, and varied between one and two lines in thickness. The substance of the heart was pale and soft; the volume of the whole organ, and the thick-

ness of its muscular walls, offered no marked deviation from the ordinary condition. The right auricle contained a large and very firm coagulum, of a pale colour, intimately connected by one extremity with the folds of the tricuspid valve, its substance being of a reddish-brown hue, and of a fibrous texture, and its surface covered by a perfect membrane, resembling, in its transparency, and other physical characters, a true serous membrane. A similar but smaller coagulum existed in the right ventricle. The surface of this latter cavity presented numerous patches of a pearly white colour, through which the redness of the muscle shone faintly. The folds of the tricuspid valves were wrinkled, their free edges of a bright red hue, and their surfaces marked by superficial and thin milk-white patches, and by little circumscribed elevations of the same colour, but more opaque. The same characters belonged to the lining membrane of the left side of the heart, and the mitral valve. The semilunar valves of the aorta were less supple than natural, and were either red, or covered by white patches. The lining membrane of this artery was of a vivid red colour, and could easily be raised from the middle coat of the vessel, which preserved its natural colour. The valves of the pulmonary artery were supple, but not quite as transparent as natural; the lining membrane of the vessel was injected like that of the aorta, but in a less degree.

Recapitulation.—A seaman, æt 23, of good constitution, is transiently exposed to cold and wet, and is immediately afterwards seized with a pain over the left false ribs, which lasts for an hour or two and then leaves him to return again on the fourth day; he has no cough, nor expectoration, nor do the physical signs afforded by the thoracic organs show them to be affected. On the eighth day the patient is taken with severe pain over the heart, and great dyspnoea, both relieved by venesection. On the tenth day there are evident signs of an effusion into the pericardium, of which the general symptoms very much diminish, and the physical signs show some amelioration during the following four days. But on the next succeeding day the 16th, namely, from the commencement of the attack, there arise new signs of disorder in the circulation and respiration; over the summit of the left lung, anteriorly, bronchial respiration is heard, and percussion is dull in the same region. On the following day percussion is tympanitic under the middle of the left clavicle, where dulness existed the day before, and is accompanied by pectoriloquy. Behind, there is absolute flatness on percussion, from the summit to the base of the left lung; feeble respiration in the lowest third; ægophony at the root of the lung, and broncophony in its superior third. On the next day, (the 18th,) percussion is again dull under the left clavicle, but the characters of the respiration, and the voice are there the same

as before. The 19th, the left clavicular fossæ are observed to be filled up. The 20th, there is some subsidence of the præcordial prominence. The 23d, the sounds of respiration are no longer heard under the left clavicle; those of the heart have become more audible. On the 25th the respiration becomes very difficult; and, the 26th, crepitant rhonchus and dulness on percussion are observed in the lower third of the right lung, hitherto uninvolved, and the tympanitic resonance is again found under the left clavicle.

On the 27th the patient dies. At the examination of his body, the pericardium is found to contain a quantity of serum, filling, without distending it. Its cavity is lined by a recent false membrane, and the interior of the heart presents signs of inflammation, consisting in a milky appearance of certain portions of its lining membrane, a vivid redness of other portions, including the internal coat of the aorta, and the formation of organized coagula. There is pneumonia of the inferior lobes of both lungs, and solidification of the upper lobe of the left, from the compression of a false membrane, lining the whole pleural cavity of that side, and a serous effusion, distending the upper half of the same cavity, so that no portion of the left lung rises above the level of the third rib. There are no tubercles in either lung.

Remarks.—It might at first excite surprise that such extensive organic changes should be found twenty-seven days after the first appreciable alteration of the patient's health, and nineteen only from the first symptoms of serious disorder of his functions, and some suspicion might be indulged that the case was not examined with sufficient care on its first coming under observation. But the record, although imperfect, is full enough to establish the negative fact, that no inflammation of the thoracic viscera existed during the first seven days. The only affection that revealed itself during this period, was pain over the left false ribs, which, from its mode of origin, its seat, and the want of any sympathy shown by the system, was considered rheumatic. That pericarditis should succeed rheumatism, is in accordance with abundant experience, but as the latter disease does not commonly affect the cartilages of the ribs alone, it must be admitted that, in the present case, the rheumatic nature of the pain over those bodies admits of some doubt, especially as, in the course of time, a neighbouring organ became the seat of violent morbid action. This organ may have been disordered from the beginning, and have caused pain where it was actually felt; but on the other hand, it is certain that when the pericardium became unquestionably inflamed, the pain was referred to its usual seat under such circumstances, over the heart, and not to the false ribs. We think, then, that the patient was first attacked by rheumatism of the left

false ribs because of the seat of pain, because the constitution showed but little interest in the disease, because of the effects of the treatment, because the pericardium gave no signs of inflammation at first, and did give such signs afterwards; and, finally, because when the pericarditis had evidently begun, the pain changed its seat, and showed itself near the affected organ.

After the heart, the left lung was attacked by pneumonia, and pleurisy, with effusion. Without enlarging upon this interesting succession of events, we cannot refrain from noticing a curious physical phenomena. On the 16th day there was found, under the left clavicle, *dulness on percussion*, with bronchial respiration and resonance of the voice; on the following day, under the middle third of the same clavicle, the same phenomena were found on auscultation, with *tympaonic resonance on percussion*; on the succeeding day, percussion over the same part was again *dull*; and, ten days afterwards, the percussion was once again *tympaonic*; the following day, the left cavity of the pleura was found distended by fluid, the lung bound down to the spine, and no portion of it within several inches of the spot where percussion had given such varying results. An attempt to explain these phenomena by supposing, according to Williams, that the trachea caused the reverberation of sound, is at once shown to be fruitless, from the fact that the resonance was under the middle third of the clavicle, and that dulness existed, in each instance, under the inner third of that bone, under the part, namely, in contiguity with the trachea. We might make several hypotheses as to the cause of these singular physical signs, but as none of them have appeared satisfactory to our own mind, we refer the matter to others who may have met with similar anomalous cases, and have either had a better opportunity of explaining them, or have availed themselves of it more thoroughly than ourselves.

We are shown by the history of this case, that diseases, apparently unimportant in themselves, are not, on that account, to be slightly examined, or treated carelessly. We should always keep in view, not only the affection itself, but also its tendencies; remembering "how great a flame a little fire kindleth." In this instance a slight attack of a disease more regarded commonly for the transient pain it inflicts, than for the permanent injury it entails, was the first small link in a chain, which at last fettered and destroyed a young and vigorous life.

REMARKS ON CONGESTIVE FEVER.

BY JOHN R. BUCK, M. D.

To the Editors of the Medical Examiner.

In No. 38, vol. 2d, of the Medical Examiner I reported a case of congestive fever, and

made some remarks upon the nature of the disease, and the plan of treatment pursued in it in this part of the country. It is with no little satisfaction that I now record, in favour of my views, the testimony of my distinguished friend, Dr. N. L. THOMAS, of Montgomery county, in this state, whose opinion upon any medical subject deserves the highest respect. Dr. T. writes to me as follows:

"After reading your case in the Examiner, I have determined to communicate some facts which may throw some light upon the question there started. James, æt. twelve, was taken with common intermittent fever in September. I ordered some pills of Carpenter's precipitated extract of bark,—four pills at night, and four the next morning,—to be given him. He came in and attended to some business in the house before breakfast, but was ordered back to the cabin, to be at rest. About 7 o'clock, his appearance attracted attention, and I went in to see him. I found him slightly delirious, with a small, frequent pulse, and great agitation of the nervous system, shown by spasmodic action of almost the whole muscular system. I concluded, after an examination, that it was the effect of the medicine, that it would subside soon, and left him to see a patient, but was soon sent for. When I got home, I found him pulseless and speechless. There being a kettle of water on the fire, I poured some of it, boiling, upon his legs, which made him cry out, and also speak, which he had refused to do before. I then placed a large sinapism over the epigastrium. His pulse became perceptible, and in some hours the irregular action of the muscles, and the delirium subsided, and next day he was able to resume his occupation.

The pills he had taken were prepared by Mr. T—, my student, (who was a novice in pharmacy,) and I was induced to weigh an equal number of them, which fell only two grains short of a drachm.

In my trials of the extract,—of which I have used several ounces,—I find it of about equal strength with quinine.

As far as this case goes, it proves that a powerful prostrating effect is produced by an overdose. I have no doubt but that a very little increase of its effect would have proved fatal. No other medicine was given, and there was no discharge, or anything else to account for the symptoms. It seems highly probable that the quinine in your case increased the prostrating effects of the chill.

I have bled several persons during the past summer, while labouring under a chill, and always with an improvement in the feelings of the patient, an elevation of the temperature, and a great alleviation of the other stages of the paroxysm; and what is best of all, there has been no relapse in any case, which you

know uniformly occurs when checked by quinine."

This case adds another link to the chain of evidence already adduced against the stimulating plan of treatment in congestive fever, and goes far to establish the position I have assumed—that it is not a disease, "*sui generis*," but an aggravated, or malignant intermittent. The boy had common intermittent fever, evidently rendered congestive by an overdose of the extract of bark, given through mistake. The first effects of the medicine were powerfully stimulating—the whole nervous system was greatly agitated, "but all over excitement is followed by a corresponding depression," so, in a few hours afterwards he was both pulseless and speechless, requiring the most powerful revulsives to relieve the congestion.

The plan of treatment that I pursue in this disease will be better understood by giving the history of a case.

A negro man, about thirty years of age, was taken with a severe chill, which lasted about two hours. During the whole paroxysm he was slightly delirious. I saw him before his chill went entirely off. An expression of alarm was in his countenance,—a symptom always present at this stage of the disease. Pulse sixty-two, small and oppressed, but seemed to increase in force as it was pressed upon. Respiration twenty in the minute; eyes suffused; extremities cool. I opened a vein in the arm, but could get no blood, I then had his feet and legs put in hot water, and opened the temporal artery; it ran very slowly at first, but increased, until a pint had been taken, when it stopped. The patient said he felt infinitely better. His chill had entirely subsided; pulse was better; respiration easy; intellect clear, and skin perfectly natural. I ordered him to keep perfectly quiet, and left him. In about four hours I was again sent for. He was attempting to get out of his bed; delirium active; pulse eighty, full and strong; constantly calling for his tea. I should mention that, previous to my seeing him, he had drunk freely of a decoction of fodder, a remedy which he said had never failed to stop the chill in him before. I took from his arm (the same orifice which I had before opened) about twenty ounces of blood, as near as we could guess at it. He took a dose of sulphate of magnesia some hours afterwards, and the next day was convalescent.

Since writing the above, I have received the 45th number of the Examiner, containing "Remarks on the Malignant Intermittent and Remittent Fevers, of Limestone County, Alabama, by T. Stith Malone, M. D." These remarks, Dr. Malone says, were suggested particularly by my letter on congestive fever, above referred to. From the history of the disease, as given by him, there can be no doubt but that the malignant intermittent fever

of that region, and the congestive fever of this, are one and the same disease. And his treatment proves very clearly, that it is not a disease of debility. When called to a patient, he opens a vein in each arm, and continues the abstraction of blood until the congestion is relieved, the chill is over, and a general diffusion of the energies, and an equalized circulation is established. If there be irritable stomach, or a sensation of weight or oppression there, he applies cups over the epigastrium.

So far the treatment of Dr. Malone is rational, and seems to be founded on a correct view of the pathology of the disease. All the indications seem to me to be fulfilled; the congestion is relieved, the chill is over, the circulation equalized, and the patient is at that point, when, in my experience, convalescence always commences. But Dr. Malone thinks differently. So soon as he has, by active and energetic depletion, restored the lost balance in the circulation, he endeavours to keep it restored by "active and energetic stimulation—throwing in large doses of quinine," from sixty to one hundred grains in six or eight hours. This mode of treatment appears to me inconsistent. If blood-letting will restore the balance, why will it not keep it restored? There is no necessity of carrying it to the extent, sufficient to produce prostration, and if quinine is required at all, give it in moderation. The vital energies are only sustained by the action of stimuli upon excitability, and if there be not excitability enough to sustain the system at the period to which it is stimulated, a dangerous degree of depression will inevitably follow. If, when by action and energetic depletion, the congestion is relieved, the circulation equalized, and the patient "quieted," he were allowed to remain so, I venture the assertion that the cases of relapse, of which Dr. Malone speaks, would be less frequent, and the harrassing effects of salivation, which seem indispensable in such cases, would be avoided.

Memphis, Tennessee, Dec. 26th, 1839.

An Account of an improvement on the "Urethra Probe" of Sir Charles Bell, by WM. A. TURNER, M. D., of Windsor, North Carolina.

To the Editors of the Medical Examiner.

GENTLEMEN,—We were lately both edified and instructed by an examination of an improvement on the above instrument of Sir Charles Bell, made according to the directions of Dr. Turner, of North Carolina, by Mr. Warner of Philadelphia; and as we have ever been disposed to bestow praise on American inventions of merit, we must be excused for giving a short history and account of the Probe above referred to.

Doctor Turner's improvement seems admirably adapted to the treatment of prominent strictures of the urethra, and in truth we may

safely say, that in point of ingenuity, convenience, and nicety of construction, it is not surpassed by any instrument of the kind ever invented in America.

It consists of a silver rod about $\frac{1}{2}$ a line in diameter; its length is 10 inches; each extremity of the rod is furnished with an oval ball, one line in diameter, though perhaps the diameter of the one extremity is smaller than that of the other; 9 lines from either extremity of the probe, the rod gradually enlarges for about one inch; it then continues of uniform size for 12 lines further, and after this, declines in its transverse diameter, until it is reduced to its original size as before.

A screw, with round smooth thread, is cut on an enlargement, next the ball or extremity, and by turning the rod, this screw progresses forward through the stricture without much difficulty. The principle upon which this probe acts, is by dilating the strictured portions of the urethra, without that unpleasant feeling to the patient that is experienced in pushing a bougie into the urethra; for in the use of the latter instrument, the laxity of the proper tissue of the urethra favours the recession of the stricture, and the instrument is therefore often withdrawn under the delusive hope that the stricture is dilated, when in reality, the bougie has not come in contact with the resisting portions of the urethra at all.

Whilst in the pursuit of his professional studies in Philadelphia, a few years since, Dr. Turner (the author of the instrument now under consideration) frequently noticed the difficulty experienced by surgeons in attempting to push a bougie into the urethra. This fact induced him to form an instrument after his own suggestions: he had, therefore, a probe of the kind that we have just adverted to, made by a distinguished cutler of this city, and presented it to his friend and classmate, Dr. W. M. S. Ridley, (then of North Carolina, but since of Georgia, and one of the most intelligent, energetic, and accomplished young surgeons of which this country can boast, and destined to be at the head of the profession.) Since which time he has used the instrument himself, and his experience meets the concurrence of Dr. Ridley, as testified to by the following letter, dated, Harris, Georgia, August 26th, 1839.

"Since my last pleasure in seeing you, I have had the good fortune to relieve many cases of that annoying disease, stricture of urethra, and in each instance the cure was effected through the use of the valuable instrument which your kindness put me in possession of, during our mutual pupilage in Philadelphia. Its use has indeed surpassed my most ardent anticipations, and, in fine, I would not be deprived of it under any considerations.

"I find in the use of the probe, that if its ballled extremity will pass the resisting part of the urethra, that the stricture will certainly succumb, and much more easily, too, both to

operator and patient, than with any other instrument it has been my province to use. By way of suggestion, allow me to say that the instrument should be patented, and published, for it must be adopted in practice, and the honor of the invention should be accorded to the proper person. With sentiments of hearty approbation of the instrument, with my best wishes for its good success in future, I have the honour of being your friend and classmate,
WM. M. S. RIDLEY, M. D."

To Dr. William A. Turner, Windsor, North Carolina.

We would here reiterate the suggestion of Dr. Ridley to Dr. Turner, to patent and publish the instrument, for why hide his light under a bushel until some transmarine aspirant get the idea, have the instrument made, and publish it to the world as his own invention?

Respectfully,

A PHYSICIAN OF PHILADELPHIA.

P. S.—Upon the principle of the instrument just referred to, Dr. Turner has invented a stilet, which we have not as yet had an opportunity of using, but so soon as an occasion presents itself, we will, we hope, be allowed to record our experience in your valuable Journal.

These instruments are both to be seen at the office of the Medical Examiner, and at Ellis's Drug Store, Chesnut street.

Philadelphia, December 1, 1839.

CLINICAL LECTURE.

PHILADELPHIA HOSPITAL.

Wednesday, January 1st, 1840.

LECTURE ON PNEUMONIA—PATHOLOGICAL ANATOMY OF PNEUMONIA—PNEUMOTHORAX—PERICARDITIS—ENDOCARDITIS—FATTY LIVER.

By W. W. GERHARD, M. D.

No. 7—Winter Course.

THE lecture of to-day, gentlemen, will be principally occupied with the consideration of a disease, which is extremely frequent in the winter and spring months,—I mean pneumonia. We have as yet had no cases of the disease in its pure and regular form; they have all been more or less irregular in their character. For pneumonia has its irregularities of aspect, as well as phthisis; and an attention to these deviations from the regular form, are of extreme importance in a practical point of view.

Pneumonia may assume an irregular character from several causes. 1. Age: thus, in old persons, this disease tends constantly to put on an asthenic form. 2. The previous condition of the system: if the health has been deranged by some antecedent disease, a corresponding modification will be impressed upon the pneumonia. 3. The epidemic constitution

of the atmosphere: in consequence of which, this, as well as various other diseases, will, at one time, have a sthenic, at another time, an asthenic character. The mortality of this affection varies exceedingly at different periods of life. In old persons, that is, those past the age of fifty, it is one of the most fatal of all diseases: it is then often characterized by a feeble or asthenic grade of action. In children, also, below the age of six years, pneumonia is extremely fatal; at this age, we have the variety called *lobular*, which usually attacks both lungs. From the sixth or seventh to the forty-fifth year, on the other hand, idiopathic pneumonia, treated at the commencement, is hardly ever fatal; and when death does occur, it may be frequently referred to some impropriety of treatment, or else some modifying circumstances of an unusual kind, which have caused the disease to assume an unfavourable aspect.

Pneumonia is an inflammation of the substance or parenchyma of the lungs,—that is, the vesicular terminations of the bronchial tubes, and the cellular tissue connecting them. The other structures,—the pleural covering, and the bronchial tubes,—are likewise almost invariably implicated. There are three distinct stages in this affection, each dependent upon a corresponding condition of the pulmonary tissue. In the first, or engorged stage, the lung, like any other organ in a state of inflammation, simply contains a larger quantity of blood than natural, mixed with serum; the vesicular structure is still completely preserved. When we make a section of a lung in this state, a bloody serum oozes from the cut surface; it is of a red colour, more firm to the touch than a healthy lung, but more friable. In the second stage, or that of hepatization, the lung becomes impermeable to the air,—its parenchyma is solidified by the blood and lymph which fill it,—the colour varies from one shade of red to another,—the lung is so dense and resisting to pressure, (though still easily broken down into a pulp,) as to bear a striking resemblance to the substance of the liver,—hence the term by which this stage is designated. In the third stage, the blood and lymph disappear, and are replaced by pus, which, like them, is infiltrated through the pulmonary tissue. The divided surface is of a yellowish or grayish colour, and a purulent fluid escapes from it when pressure is made: of course, the vesicular structure is then destroyed. This stage is called gray or yellow hepatization, or softening. The pus is in most cases, as I have stated, diffused throughout the substance of the lung: in some rare instances, however, it collects into an abscess, and its discharge leaves a cavity opening into a bronchial tube. Pneumonia in young or adult subjects, rarely runs through all these stages, but passes into resolution after it has reached the second: in the old, however, it does, in most cases, run through all of them, and often with great ra-

pidity, either to a fatal or a favourable termination.

The case which I now bring before you, is a very good illustration of the course of the disease: but it is not an example of pure pneumonia, because the physical signs, and the history of the case, render it probable that it is complicated with the development of tubercles in the lungs. The patient, 29 years of age, was admitted on the 20th ult. He had been sick for about three weeks. He had usually enjoyed good health, except occasional attacks of fever. Last autumn he had a bilious fever, from the effects of which he had not entirely recovered, when he was seized with the symptoms of pulmonary disease: that is, he was still feeble, and unable to do full work. The first of these symptoms was a chill, followed by cough, which has continued to the present time. There was also pain, which commenced near the right nipple, and passed round to the scapula of the same side. The action of the heart has not been disordered; there was no epistaxis until the 25th, when a small discharge occurred. Nor was there any blood in the expectoration, until the 27th: it was then intimately mixed with the sputa, and not in the distinct form properly denominated hæmoptysis. The patient entered the hospital on the 26th: on the 27th I examined him for the first time, and found the functional and physical signs of pneumonia. There was a circumscribed flush on each cheek, brighter than that of ordinary pneumonia, and nearly resembling that of hectic, about an inch and a half in diameter, and becoming more distinct at each exacerbation of the fever. There was considerable dyspnœa, the nostrils were dilated, and the countenance had that expression of anxiety which always attends difficulty of respiration. The intellect was perfectly clear, and there were no cerebral symptoms. The tongue was moist, and covered with a white coat; appetite bad; bowels were readily opened by a laxative. The cough was shorter than it usually is in pneumonia; expectoration small in quantity, white, and opaque, without any tinge of blood. The respiration on the right side posteriorly, was bronchial, from the middle to the summit of the lung; there was flatness on percussion over the same space, and dulness throughout the rest of the right side. There was also some crepitant rhonchus around the portion of lung which yielded the flatness on percussion, and bronchial respiration. It will be seen from the history of this case, that it differs from ordinary, frank pneumonia in two respects: first, it succeeded an attack of another disease, which had left the patient in a more or less debilitated condition; and secondly, it had more the character of a chronic than of an acute disease. If it had been acute pneumonia, in the three or four weeks which have elapsed from its commencement, the patient would either have died, or been conva-

lescent: its long continuance shows that the grade of action is subacute. This circumstance modifies both our diagnosis and prognosis of the case. It is probable that a development of tubercles in the lungs preceded the pneumonia, and of course our prognosis is on that account the more unfavourable. Since the 27th, the symptoms have gradually declined; the flush on the cheek is less distinct, the skin is moist, the respiration and pulse are becoming natural. The flush is now of a bright red colour; on the 27th, it had a purple tinge, owing to the deficient deterialization of the blood, which necessarily arose from the impermeable condition of the lung.

The pulse becoming slower, is always a good omen in pneumonia, provided that the respiration at the same time approaches the natural standard. But if the respiration become more frequent, at the same time that the pulse sinks, the prognosis is just the reverse. Thus, if to-day the pulse were 40 in the minute, and the respiration 32, and to-morrow they should change, the one to 100, the other to 45, we would infer that the patient's condition was much worse: because the increased frequency of the respiration depends upon the extension of the disease in the lungs; whereas the diminished frequency of the pulse depends upon the action of the heart becoming enfeebled. If on the third day, we should find that the respiration had risen to 56, while the pulse had fallen to 80, we might consider the case hopeless. On the contrary, if while the pulse fell from 140, to 100, and then to 72, the respiration should fall to 32, and finally to 26, the prognosis would be favourable, for both signs would indicate a declension of the pulmonary disease. Hence, in the prognosis of pneumonia, we ought to lay much more stress upon the respiration than the pulse: the latter is in fact almost nugatory as a sign in this disease, and is only of use as indicating the degree of the patient's strength, and the amount of bleeding which he will bear,—which indeed may be inferred nearly as well from other signs, as from the state of the pulse. The respiration indicates precisely in acute cases, the gravity of the affection, for in proportion as the lung becomes solidified, the respiration must of course become more rapid, in order to supply the deficiency of air resulting therefrom. But, in chronic cases, the sign is of less importance, because the patient gradually accustoms himself to a smaller supply of air. In the pneumonia of children, an attention to the respiration is of even greater importance than it is in adults: for in the former it is difficult to ascertain satisfactorily the state of the pulse; whereas the respiration can always be counted with ease. In counting the respiration in patients of any age, we should be careful not to touch the patient, for it is apt to confuse him, and make the respiration in some degree voluntary. In the present case, the respiration

is 26, and the pulse 78—a very moderate degree of acceleration. The former, even in adults, often rises to 30 or 40, and is sometimes much more frequent. This, in children, would not be considered as a great degree of frequency: I have sometimes seen the respiration in them more frequent than the pulse: such cases of course must be for the most part, fatal. The physical signs in the case before us, have likewise become more favourable: the bronchial respiration is less intense, and in the region occupied by it, some crepitus is now heard. Indeed, at the last examination that I made of the patient, I found that the respiration was again vesicular, though feeble.

The *treatment* has consisted in the application of six cups to the right side, followed by a blister, and the administration of the following combination:

| | |
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| R.—Pulv. Ipecac. | gr. j. |
| Calomel, | gr. 4. |
| Pulv. Opii, | gr. 1-12. M. |

S. To be repeated every three hours. The gums are slightly red, but the ptyalism, if it has occurred at all from the use of this prescription, is extremely slight. In cases of this sort, we must rely upon local depletion, followed sometimes by a blister, and some remedy calculated to allay the excitement of the heart. For this purpose, nothing is better than the old-fashioned combination of opium, calomel and ipecac. Active depletion by venesection cannot be resorted to, and sometimes even cupping is contra-indicated; in such cases, blisters will answer exceedingly well.

The next case is an illustration of the manner in which pneumonia is modified by age, and the epidemic tendency of the season: it is one of subacute, or asthenic pneumonia, passing into gangrene, the supervention of the latter being indicated by a change in the expectoration, and the sinking of the patient. The patient, aged 54, was admitted December 18th. He had previously enjoyed good health, with the exception of an attack of intermittent last autumn, which lasted three months, but was finally cured. Two months since a cough commenced, but there was no pain till a fortnight ago, when it was felt in the right axilla. The disease was, therefore, in all probability, bronchitis in the commencement, and the pneumonia did not take place till about the period of his admission into the hospital. The expectoration was then whitish and small in quantity; it has since been yellow and purulent, sometimes mixed with blood. The patient lay on the right side; he was unable to lie on the left, on account of the pain experienced in that position. The action of the heart was normal. On the 22d, the patient exhibited the signs of ordinary pneumonia. There was dyspnoea; hard and dry cough, with yellow and puriform expectoration; tongue reddish; no pain in epigastrium. Percussion dull on the right side in the lower third of the lung; with mucous and

crepitant rhonchi; the respiration had lost its vesicular character. 24th. Respiration more rapid than before; pulse less so; expectoration viscid and red. As the patient appeared to be sinking, he was put on the use of wine whey and sanguinaria. In the afternoon of the same day, there were signs of gangrene supervening; the sputa had a gangrenous odour, and amounted to eight ounces in the course of twenty-four hours; they were of a dark colour, tinged with blood, and resembled the jelly of Iceland moss; pulse 84, respiration 25; patient very weak; carbonate of ammonia and Hoffman's anodyne were ordered. A cavity was gradually formed by the progress of the gangrene, as was proved by a mucous rhonchus so loud and loose as almost to constitute gurgling. This case illustrated the rapidity with which the vitality of the pulmonary tissue may be destroyed; the change in the character of the sputa, and the prostration of strength occurred suddenly. The symptoms had previously been gradual in their occurrence. The sputa have at no time presented the characters which they do in ordinary pneumonia; they were mucous previously to the occurrence of the gangrene, with only a slight degree of viscosity and intermixture of blood. They now consist of a flocculent, shreddy matter floating in a fluid; a few days since they were very dark, but are now less so; the gangrenous fetor has also, in a great measure, disappeared, and there is an intermixture of pus. This last circumstance is a proof that the progress of the gangrene has been arrested, and a complete cure of the lesion will be effected by means of a false membrane, (in the manner which I have already explained to you,) unless the sloughing should again commence. This occurrence, of course, would be indicated by an increase of the mucous rhonchus passing into the cavernous, with fetor and dark colour of the sputa; With regard to the gangrene, our prognosis is, therefore, in the present case, favourable. Generally, gangrene of the lungs is less fatal in private practice than in hospitals, because, in the former case, our means of supporting the patient by a proper diet are much less limited than in the latter.

In the asthenic variety of pneumonia, the three stages are usually completed with great rapidity; the danger, however, is not from the implication of a large portion of the pulmonary tissue, so much as from the loss of strength and inability to expectorate, which constantly takes place. Hence all depletion, except by a few cups, is contra-indicated; we have, on the contrary, to support the patient and to promote expectoration. For the latter purpose, we have employed very effectually, an infusion of sanguinaria and senega. The formula is as follows:

R.—Rad. Sanguinariae Canad., ʒij.
 Rad. Polyg. Senegæ, ʒiv.
 Aquæ ferv. Oj.—Ft. In.

S. To be taken in divided doses in 24 or 48 hours, as the stomach will bear it.

Or we may employ the combination of calomel, opium and ipecac. already spoken of, particularly if the inflammation should have some degree of activity. Blisters are likewise very useful in certain cases. The difference of opinion which exists as to their utility, has doubtless arisen from a want of due discrimination as to the character of the disease, and the proper period for their application. In frank pneumonia, where the grade of action is high, and the inflammation does not usually pass beyond the second stage, they will indeed prove injurious, unless preceded by sufficient depletion; but even in these cases, if they should pass into the third stage, blisters are necessary items in the treatment. In the asthenic variety of the disease, where the vitality of the lungs is impaired, and the grade of action is weak, blisters are exceedingly useful, and they are generally tolerated very easily.

The next patient, S. C., you have already seen; he has been labouring under a chronic disease of the lungs, complicated with disease of the heart, which is now declining. The first symptom in this case was cough, which continued for some time, when it was accompanied by dyspnoea, and pain in the præcordial region. On the 24th of December, when he was admitted into the hospital, the sounds of the heart were clear, but there was a creaking sound heard during the diastole; there was also dulness on percussion. I hence inferred that there was pericarditis, with some effusion; while the cough and other signs proved the co-existence of phthisis. The treatment has consisted in the application of a blister to the præcordial region, together with the use of a combination of digitalis, calomel, and Dover's powder. Under this treatment, all the acute symptoms have rapidly declined.

I have several pathological specimens to show you to-day, some of which possess considerable interest. The first is the pericardium and heart of a negro, who died within twenty-four hours after his entrance into the hospital. Previously to his entrance, he had been utterly neglected. No very accurate examination of the physical signs could be made, but I recollect that there was an enlargement in the cardiac region, with flatness on percussion: the sounds of the heart were distant and indistinct, and the impulse was feeble: there was likewise some dulness on percussion on the right side of the chest posteriorly. The man had been ill two weeks with pain in the region of the heart. From these signs I inferred that there was pericarditis with effusion, and that the lung and pleura of the right side had become involved in the disease. The causes of pericarditis, when acute, are either the general causes of serous inflammation, as cold, mechanical violence, &c., or rheumatism: the

result is, an inflammatory effusion. When chronic, it terminates in an effusion of that sort which constitutes a dropsy, (hydro-pericardium,) in the same way that hydro-thorax sometimes results from chronic pleuritis. The chronic inflammation may follow the acute, or the effusion may result from valvular disease of the heart, or from disease of the liver or kidneys.

When the heart was removed from the body, the flatness on percussion was explained by the discovery of an extraordinary effusion into the pericardium, which was immensely distended, so as to measure $7\frac{3}{4}$ inches in length, and 7 in breadth. It contained about a quart of well formed *pus*. The heart is of a much smaller size than natural, owing obviously to the compressing force exercised by the large quantity of fluid by which it was surrounded, in the same manner that the lung is compressed by pleuritic effusions. The *pus* was mixed with lymph, some of which floated in the fluid, while the rest covered the two surfaces of the pericardium. In one point, adhesion has already taken place, by means of bands which are completely organized: around these is a quantity of lymph more or less hardened, and in different degrees of organization. The question as to the thickening of serous membranes may be considered as settled by this case. If we consider simply the varnished surface as the serous membrane, of course it does not admit of thickening, but if we include in it, (as we ought to, certainly,) all that layer of condensed cellular tissue, which really constitutes the membrane, and presents a smooth surface on the interior, there can be no doubt on the subject. Here you see the membrane greatly thickened, and of an almost cartilaginous density. No creaking sound in the diastole of the heart was heard when the patient was examined, because the expansion of the organ was in a great measure prevented by the effusion: it is only heard when there is a moderate quantity of lymph in the pericardium, and no effusion sufficient to produce compression of the heart. Pericarditis, like pneumonia, is very rarely fatal: when patients affected with it die, it is generally owing to the super-vention of endocarditis, a much more fatal disease. This point is perfectly well ascertained. In this case, however, the pericarditis resulted in the death of the patient: I have not examined the interior of the heart, to see whether it was complicated with endocarditis, but most probably it was not; at least, I can feel the valves, which are nearly natural. The pericarditis was too intense; it is only when each exists in a moderate degree, that we commonly find these two diseases together.

Here is another heart, which affords an example of endocarditis; and the specimen is curious, inasmuch as it shows that the disease existed in the right side of the heart, instead of the left, the usual seat. The result of the

inflammation is a thickening of the tricuspid valve, and a cartilaginous deposit on its margin.

You will recollect that a few weeks since I showed you a coloured man, in whom that lesion which is termed pneumothorax, had occurred. He has since died from the effects of the accident, and I now exhibit to you the lung which was affected. The patient had the symptoms of phthisis before the occurrence of the pneumothorax,—and the perforation of the pleura was undoubtedly caused by a tuberculous cavity seated under this membrane. It was followed by inflammation of the pleura, which resulted in a large effusion of *pus*. The effusion was so great as to threaten suffocation: the operation of paracentesis was, therefore, performed, which relieved the patient for the time, but hectic fever supervened, and carried the patient off. This result we are always to be prepared for in performing the operation for empyema: we can only rescue the patient from impending suffocation, but we must not be confident of a final cure.

On examining the pleura, no signs of perforation are to be discovered: the reason of this is, that a long time had elapsed since the occurrence of the lesion, and given abundant opportunity for the closure of the opening by coagulable lymph, in the manner which I explained to you in my lecture on this subject. This process was facilitated by the effusion, which compressed the lung, and reduced the size of the opening in the pleura. The lung is much condensed, from the pressure of the liquid; the pleura is injected, and covered with false membrane; tubercles are found in the upper lobe,—and it was doubtless in this portion of the lung that the perforation took place, for no where else can we suppose a cavity to have existed.

Pneumothorax is not necessarily fatal, though it most frequently is so. It may prove fatal, either by the excessive dyspnoea which it produces, or by the effects of the consequent pleurisy.

Here is another lung, which offers an example of the asthenic variety of pneumonia. The subject was an old man, of intemperate habits: when he entered the hospital, he presented the physical signs of pneumonia. The disease proved fatal in a very few days; the brain was likewise involved, and delirium was a prominent symptom of the case. The lung is firm to pressure, and impervious to air; it is of a grayish yellow colour, showing that the disease was passing into the third stage,—and it is at this point of its progress that death usually occurs. When pressure is made, *pus*, mixed with mucus, oozes from the cut surface,—but no air can be detected in the fluid. Little granular elevations are perceived at various points: these are the vesicles, distended by the morbid matter; they contain no air. The *pus* is not collected into an abscess, but is in-

filtrated through the substance of the lung; the tissue is friable, and sinks at once in water. Another portion of the lung has the characters of the second stage of pneumonia: it is dense and resisting, of a red colour, and equally impervious to air with the portion already described. At the summit again, we find a part in the first stage of inflammation; it is infiltrated with blood and serum, but still contains air, which escapes in bubbles where pressure is made. The preceding conditions of the lung correspond with the physical signs which existed during life: over the hepatized portion the respiration was bronchial; at the summit it was still vesicular, but mixed with the crepitant rhonchus. The bronchial tubes are also inflamed. This inflammation sometimes precedes, and sometimes follows that of the substance of the lung. When bronchitis comes first, it will be indicated by a loose cough, and mucous expectoration: the supervention of pneumonia will be announced by chills, pain in the chest, bronchial respiration, &c. When pneumonia is the original disease, it will manifest itself by the ordinary physical signs, together with dyspnoea and prostration of strength. The mucous membranes of the bronchial tubes in this lung are red, thickened, and covered with mucus. The other lung preserves the healthy vesicular structure, in accordance with the general rule that pneumonia attacks only one lung at a time. An exception to the normal condition of the lung exists, however, at the summit: we there perceive the evidences of a cicatrized tubercular cavity. The lung is puckered by the cicatrix; and gray granulations are seen around it, which are as hard as cartilage, and probably of an indolent character: as the cicatrix has remained unbroken till this advanced age, the cure may be considered complete. In the neighbourhood of the tubercles, the pulmonary tissue is emphysematous: the enlargement of the vesicles can be detected by the eye. This condition was manifested during life by preternatural resonance on percussion, and feebleness of respiration. There is a slight congestion of the lower lobe of the lung, but it is hardly sufficient to constitute a state of disease: the pleura is entirely healthy.

The liver of the same subject is in that state which is termed *fatty degeneration*, and which depends on the deposition of adipose matter in the substance of the organ, especially in the cellular tissue uniting the acini. This change is most commonly met with in intemperate subjects, and those labouring under phthisis, particularly females. The liver is enlarged, of a much lighter colour than natural, and the oily matter exudes from the cut surface, when the back of the scalpel is passed over it. The causes of this alternation, and its precise importance as a pathological state, are by no means understood. The morbid conditions of the liver still offer a wide field for investiga-

tion. An idea of the obscurity still subsisting in relation to this subject, may be formed from the statement, that in France, scarcely any attention is paid to the disorders of the liver, while in some portions of the United States, this organ is considered by many as concerned in almost every disease. The reason of this difference of opinion is, that in the temperate parts of Europe, its lesions are rarely of that violent character which naturally excites the attention of medical men. In our Southern States, on the other hand, they are among the most frequent and serious of the diseases incident to that region. Of course, on this, as on every other subject, there is a proper medium; but before it can be accurately defined, future investigations must explain to us, more perfectly than we now understand them, the causes, the nature, and the pathological value of the various alterations to which the liver is subject.

FOREIGN SUMMARY.

VELPEAU'S CLINICAL LECTURE ON OPHTHALMIA.

No. XIV.

Local treatment of acute iritis—Mercurial ointment—Belladonna—Various collyria—Puncture of the cornea, a dangerous expedient—Chronic iritis—Efficacy of issues—Synechia—Operation for the removal of this—Application of belladonna—Critical examination into and denial of the existence of catarrhal and various other specific forms of ophthalmia.

The influence which local treatment exercises over iritis is certainly slight—a fact which the deep-seated situation of the inflamed organ at once explains; I cannot, however, agree with M. Sichel, in considering it to be decidedly prejudicial. In many instances I have seen the iritis itself benefited by the use of local remedies, and you are well aware that they are valuable therapeutic agents in the treatment of the inflammation of the cornea and of the conjunctiva, which nearly always accompanies inflammation of the iris.

Local remedies may be divided into two classes. The first class comprises those which act directly on the iris; the second those which only act on the membrane through the medium of the circulation. In the first class we find the various mercurial, opiate, and belladonna ointments, the action of which we will now examine.

Although mercurial ointment has enjoyed, and still enjoys great reputation, it has never in my hands proved a valuable remedy. Indeed, I have so often employed it without deriving any benefit whatever from it, that I cannot now place much confidence in its efficacy. You ought early to become familiarized with the idea that a multitude of remedies

employed by every practitioner, exercises, in reality, little or no influence over the disease against which they are directed; nor is it difficult to account for the apparent contradiction. In iritis, for instance, after some substance or other, say mercurial ointment, has been applied to the temples during several days, the inflammation disappears. It is at once inferred that has given way to the application of the ointment. But in all probability some of the general measures which we have already detailed, such as general or local bleeding, have been simultaneously employed, and it then becomes difficult to decide whether the iritis has been cured by the mercurial ointment, or by the other remedies to which the medical practitioner has had recourse. We must also bear in mind the length of time the disease has already existed, when we wish to ascertain the value of a remedial agent which we have employed; because iritis, in this respect, similar to all other inflammatory affections, does not last for ever, and may disappear after a certain lapse of time, although no treatment whatever has been directed against it.

When iritis is accompanied by severe pain, and it is considered advisable to guard against the contraction of the pupil, ointments, containing opium and belladonna are indicated, the proportions of these ointments being one drachm of opium or belladonna to an ounce of hog's lard. Belladonna having a peculiar action on the pupil, has been much used in the treatment of iritis; we will therefore devote a few moments to the examination of its value as a therapeutic agent in this disease. In the first stage of the malady, while the inflammation is still acute, belladonna should not be employed, as, instead of diminishing, it increases the inflammation. The action it then exercises over the iris may be compared to that of a remedy which would oblige an inflamed muscle to contract, in order to cure the inflammation. But when the inflammation has in a great measure subsided, and we have to fear, as sequelæ, permanent adhesions between the radiated fibres of the iris, or between the iris and the adjacent organs, belladonna is extremely useful, and will often, if judiciously employed, cause the destruction of any slight adhesions which may have formed. Among the various preparations of belladonna which are employed, there are one or two which, in my opinion, ought never to be used unless the inflammation has entirely disappeared. I cannot, for instance, understand how some practitioners can recommend the concentrated solution of belladonna to be instilled into the eye when the resolution is not complete. This solution is, in reality, an extremely irritating preparation, as is plainly seen if a few drops are introduced between the eyelids of a person whose eye is not inflamed:—the eye immediately becoming red and painful. It is not, moreover, necessary to employ it when the

inflammation has not entirely subsided, as the iris may be easily acted upon, either by frictions with belladonna ointment, or by giving some preparations of belladonna internally. The principal object we have in view in employing belladonna, is to produce alternate contraction and dilatation of the iris, in order thereby to destroy the adhesions that may exist. To accomplish this, certain precautions are necessary. Were the belladonna given every day, its action being slow and gradual, the adhesions would not be ruptured, but merely elongated. We are, therefore, much more likely to succeed if we give the belladonna every two or three days, by starts, as it were, so as to cause the pupil to dilate suddenly.

Among the remedial agents which constitute the second class of local remedies, there are very few of any value. The various collyria of lead, iron, &c. are of little or no use, unless there be at the same time conjunctivitis or superficial keratitis. When, indeed, we consider that the surface on which they are applied is separated from the iris by the entire thickness of the cornea, and by the aqueous humour, we cannot be surprised that they should exercise but little influence over the disease. As, however, collyria, containing laudanum and belladonna, sometimes appear beneficial, they may occasionally be employed. When they are resorted to, the eyelids should be bathed several times a day with the collyria, and if the inflammatory stage is passed, a few drops may be instilled into the eye.

When the various agents which I have enumerated do not appear to arrest the progress of the inflammation, there are other local remedies which may be tried, as they have been strongly recommended by some authors. I might name, for instance, the distilled water of the laurocerasus, in which cyanuret of mercury has been dissolved. This collyrium has been much used by M. Carron du Villards; but on perusing what he has said on the subject, I do not find that there is any reason to suppose its efficacy to be greater than that of the laudanum or belladonna collyrium. I do not mean to say that the remedy is a bad one, but that its efficacy has not yet been satisfactorily demonstrated.

Before I conclude these remarks on the treatment of acute iritis, I must say a few words respecting a much more energetic remedy than those we have just examined; I allude to puncture of the cornea. Many of you will probably be surprised to hear that such a measure should ever have been proposed against inflammation of the iris, yet not only has it been proposed, but also put into execution. Mr. Wardrop is, I believe, the inventor of this plan of treatment; but since he introduced it into practice, it must have been frequently resorted to, as M. Weller speaks of the puncture of the cornea as of an ope-

ration generally adopted in acute iritis by practitioners. Mr. M'Gregor has practised the operation at least five-and-twenty times. M. Carron du Villards has often performed it; and an Italian surgeon says that he has punctured the cornea fifteen times on the same patient. The puncture of the cornea having, therefore, been so frequently resorted to in the treatment of acute iritis, I cannot pass it over in silence, especially as it is a measure which must be either decidedly beneficial or extremely dangerous.

Those who advise the cornea to be punctured in iritis, contend that the puncture evacuating the fluids which distend the eye, alleviates the acute pain felt by the patient, and that when the membranes of the eye are no longer distended, the inflammation is soon resolved. But I have not yet met with facts calculated to prove that such is really the case, and reasoning alone is not sufficient to establish the efficacy of a remedy in the treatment of disease. I have several times punctured the cornea in cases of iritis which presented some special indication, such as accumulation of pus in the anterior chamber, and in every instance the malady has been aggravated. The authors who have extolled this plan of treatment do not say under what circumstances they think it proper to resort to it, but merely state that it is a valuable remedy in iritis. But this is not sufficient: when a peculiar method of treatment is recommended, the precise indication for its use ought to be distinctly laid down. Even from the statements of those who have spoken the most highly of the operation, it would appear that it is not always unattended with danger, as we find that both Mr. Wardrop and Mr. M'Gregor have seen it followed by the disorganization of the cornea. In my opinion the puncture of the cornea in acute iritis is not a remedy, but a dangerous operation, much more to be dreaded than the disease against which it is directed.

Such are the principal remedial measures to which we can have recourse in the treatment of acute iritis. When they are judiciously and energetically employed from the very commencement of the disease, it generally yields in from six to twelve days. But when the iritis is accompanied by some other deep-seated lesion, such as retinitis, choroiditis, or disease of the vitreous humour, the result of the best directed treatment is far from being favourable.

Chronic Iritis.

Chronic iritis, considered as a primitive disease, has hitherto been but little studied, nor can we be surprised that this should be the case when we remember that most of the symptoms which characterize the acute form of the disease are absent, and that consequently its existence must often pass unperceived. If, however, I may be guided by my own ex-

perience, I should be inclined to think that chronic iritis is, in reality, by no means an uncommon malady, and that several of those shades of amaurosis which are described under the name of *imperfect* amaurosis, may be referred to this affection.

As one of the modes of termination of acute inflammation of the iris, chronic iritis has been frequently observed, and the peculiar characters which it then presents are so manifest that it may be easily recognised. When one eye only is affected, the colour of the iris of the inflamed eye is not the same as that of the one which remains healthy. If the eye is exposed to the light it becomes moist and watery. A sensation of uneasiness scarcely amounting to pain is felt in the orbit, and the sight is more or less disordered. On the anterior surface of the iris spots of various colours may be perceived. The pupil is more or less contracted, and appears to have partly lost its usual mobility; indeed sometimes it remains perfectly immovable, assuming every imaginable shape. Sometimes also adhesion takes place between the pupillary circumference of the iris and the anterior surface of the crystalline lens. The transparency of the humours of the eye is often more or less impaired. The presence of these symptoms can scarcely leave any doubt in our minds as to the existence of chronic iritis, especially if they exist as a consequence of acute inflammation.

The prognosis of chronic iritis is generally unfavourable, the functions of the eye being seldom entirely restored even in the most successful cases.

The remedial agents likely to prove beneficial in the treatment of this affection are the same as those which are employed in the acute form of the disease, modified, however, in such a manner as to suit the chronic state of the inflammation. Thus purgatives and external revulsives are more especially indicated, whilst blood-letting, both general and local, should only be resorted to occasionally, and that with moderation. Issues are often advantageous, but I do not place them at the nape of the neck—the region generally chosen—as the sub-occipital fossa is better adapted for the application of such a remedy, from the quantity of cellulo-filamentous tissue which it contains. By judiciously combining these measures we sometimes may succeed in subduing chronic iritis, but in the majority of cases the most wisely ordained treatment fails to effect a cure.

Synechia, both anterior and posterior, is a frequent symptom in chronic iritis. The remedies which have been recommended against this form of adhesion of the iris may be divided into two classes, the surgical and the pharmaceutical. Some practitioners have proposed to destroy the adhesions by means of a needle introduced into the posterior chamber, through the sclerótica in posterior synechia, and into the anterior chamber through the cornea in an-

terior synechia. The operation is by no means difficult to perform, it is true, but it exposes the healthy parts of the iris to be lacerated or separated from their attachments, and may give rise to serious inflammation of the other membranes of the eye. We must also bear in mind that even when the adhesions have been destroyed, they may be reproduced the following day. Prudence, therefore, forbids our adopting so uncertain a plan of treatment, especially as less dangerous measures will sometimes suffice. Thus, the administration of belladonna may, by causing the pupil to dilate, occasion the rupture of the adhesions. But as I expatiated at some length on the efficacy of belladonna given in cases of synechia, when I spoke of the treatment of acute iritis, I shall not say any thing further on the subject. You must not, however, forget that when these remedies are employed, the treatment must be conducted in such a manner as to cause abrupt and not gradual dilatation of the pupil. The following is the plan I generally adopt:—I dilute a few grains of the extract of belladonna in a tea-spoonful of water, and instil two or three drops into the eye night and morning. I then allow it to rest for two or three days, until the pupil has returned to its natural state, when I again instil the solution of belladonna. I must once more remind you that I never use the solution unless the eye is perfectly free from inflammation. If a certain degree of inflammation still exists, I have recourse to frictions round the orbits with belladonna ointment, or I give it internally. By basing my practice on these principles I have sometimes successfully treated cases of chronic iritis accompanied by synechia.

Specific Ophthalmia.

I have hitherto, in the course of these lectures, avoided employing the epithets which ophthalmologists generally join to the real name of the various inflammatory affections of the eye, as I wished first to make known to you my own opinions respecting this class of diseases. Now, however, that we understand each other—now that I have fully explained the peculiar views which I entertain—we are prepared to discuss the question of the existence or non-existence of specific ophthalmia.

Before I enter into the examination of this interesting question, I think it is necessary to state, once for all, that in what I am about to say I have not the slightest intention to be personal. I know too well that science has nothing to gain from personal quarrels to wish to engage in them. When, therefore, I mention names, which I shall occasionally be obliged to do, I wish it to be understood that I have merely in view the opinions professed by those to whom I allude. I consider it my duty to attack doctrines which I look upon as erroneous, even should I by so doing incur the displeasure of persons who may be rather too sus-

ceptible. Such, indeed, is the conduct which all true friends to the advancement of science ought to follow.

It is of much greater importance than is generally believed to determine whether the inflammatory affections of the eye are or are not of a specific nature. Ophthalmologists of the German school recognise a great number of specific forms of inflammation, the existence of which rest, in my opinion, on theoretical ideas, and not on an accurate and attentive study of nature. I feel myself called upon to do all in my power to prove the falsity of their views; the more so, as the elimination of so extensive a class of diseases would evidently tend much to simplify ophthalmology. I do not for a moment doubt that the state of the constitution, or a special affection, may exercise more or less influence over diseases of the eye, for this is a fact which is proved in the most satisfactory manner by daily experience; why, indeed, should the eye be shielded from such influence more than any other organ? I merely assert, convinced as I am by an immense number of facts of the truth of my opinions, that it is absolutely false to say that diseases of the eye assume peculiar anatomical characters because the patient is under the influence of a peculiar general affection, and that we may judge of the constitution of a person labouring under ophthalmia from the peculiar symptoms which that ophthalmia presents. Were this doctrine the expression of facts, and capable of demonstration, or, in other words, were not the different specific forms of ophthalmia which have been denominated *catarrhal*, *rheumatic*, *scrofulous*, *venous*, &c., mere creations of the imagination of those who describe them, we should necessarily meet with symptoms which would distinguish them from the simple inflammatory affections of the eye. But a conscientious and attentive examination of nature will show us that such is not in reality the case; indeed, I have frequently, as most of you must acknowledge, given, at the bedside of the patient, the most irrefragable evidence of the non-existence of these peculiar symptoms. I therefore feel authorized to give it as my decided opinion that the various specific forms of ophthalmia, about which so much has been said by the German school, and which are so strenuously defended by those who endeavour to propagate the ideas of Beer among us, do not exist, and ought not consequently to be admitted among the inflammatory diseases by which the eye may be attacked. I must, however, except from this general condemnation syphilitic ophthalmia, a class of diseases which may certainly be looked upon as specific. In order to convince you that I view in a proper light the question that is before us, we will attentively examine the symptoms which are attributed to each of these supposed specific affections.

It is scarcely necessary in the present state

of science to allude to those forms of ophthalmia to which the epithets of *variolous*, *dartrous*, *hæmorrhoidal*, *menstrual*, *abdominal*, &c., have been given. You must all perceive how absurd, how ridiculous even, it would be to recognise them. Were we to do so we should also be obliged to recognise cardiac, intestinal, meningeal ophthalmia, indeed as many forms of inflammation of the eye as there are diseases. I intend, therefore, merely to speak of those specific affections on which the greatest stress is laid by my opponents, viz., *catarrhal*, *arthritic*, *rheumatic*, *scrofulous*, and *syphilitical* ophthalmia. That we may proceed with order in this discussion, we will first carefully examine the descriptions which authors give of these affections, and then, by establishing a parallel between the symptoms, which are attributed to them, and those which the simple ophthalmia offer, we shall easily discover on which side lies the truth. At the same time we must remember that for a morbid affection of a tissue to be separated from all other affections which may occur in that tissue; for it to be considered a special disease, something peculiar must necessarily be found in its symptoms, its progress, its treatment; in a word, it must have, as it were, a separate existence. Otherwise pathology would be an inextricable labyrinth.

M. Sichel being with us the representative of the doctrines which I now oppose, it is in his own work that I shall take the description of the symptoms which are supposed to characterize specific ophthalmia. This interesting and important question deserves much greater development than I shall now be able to give to it; yet, however brief I may be, I feel certain that what I am about to say will prove sufficient to convince those who listen to me without any feeling of prejudice, especially if they have followed my visits in the wards, and examined along with me the numerous cases we have received and treated this year.

Catarrhal Ophthalmia.

The seat of this affection is said to be the mucous membrane of the eye—the conjunctiva. The following are the symptoms by which it is supposed to be characterized:—At first the patient complains of slight itching of the eyes, especially of the inner canthus; the eyelids feel rather stiff, and a little mucus collects in the morning at the inner angle of the eye, and sometimes on the free edges of the palpebræ. At the same time the palpebral conjunctiva begins to present the catarrhal form of vascularization, that is, it appears of a rosy hue, and the vessels which it contains form parallel streaks, which pass from the free to the attached margin of the eyelids, and lose themselves in that portion of the conjunctiva which covers the sclerotica. Before we go any further, I must ask every attentive and impartial observer if he can discover in these symptoms any thing more than the first stage of mucous

or glandular blepharitis; and if, on the other hand, the symptoms of the latter disease are modified when the patient is under the influence of a catarrhal affection? But, to continue. The vascular streaks which I have just mentioned, soon become more numerous; they are sometimes parallel, sometimes interlaced so as to form an irregular network. The entire palpebral conjunctiva becomes of a yellowish vermillion red colour; and the vascularization, extending to the ocular conjunctiva, assumes a peculiar aspect “pathognomonic of the catarrhal affection.” The injected vessels are of a pale red colour; they are nearly parallel to one another, and, following a slightly tortuous direction as they pass on from the circumference of the conjunctiva towards the cornea, become gradually smaller until they terminate at the distance of a line or two from that membrane. The conjunctival redness is, therefore, always separated from the cornea by a white zone, which is formed by the portion of the mucous membrane that has remained healthy. There is neither photophobia nor epiphora. The secretion of mucus becoming gradually more abundant, it concretes during sleep on the free margin of the eyelids, and at the inner canthus, so as to form crusts, which the patients easily rub off in the morning. In the majority of cases the palpebral conjunctiva is covered with granulations of variable size. The pain which the patients feel is superficial, and is compared by them to that sensation that fine sand would produce were it interposed between the palpebræ and the eye. This symptom is generally more intense towards evening than at any other time, especially if the patient attempts to work by artificial light.

In what authors call the third stage of the disease, the injected conjunctival vessels are more numerous, of a larger size, and advance as far as the circumference of the cornea; then it is that we meet with all the varieties of chemosis.

Such are the principal symptoms which are attributed to “catarrhal ophthalmia.” If you will take the trouble to compare them with those which I described when speaking of the various forms of blepharitis and conjunctivitis, you will at once see that the morbid phenomena are the same, and that the existence of these symptoms may be accounted for in the most satisfactory manner without its being necessary to have recourse to the supposition of a special affection. If any of you still entertain doubts respecting the identity of these symptoms, I would advise them to examine, with M. Sichel’s book in their hands, several cases of blepharitis and conjunctivitis that we have now in our wards. They will find that whether the patient be labouring under a catarrhal affection or not, the same group of symptoms is present, and that the only modifications which they offer are those which are caused by the variable intensity of the inflammation.